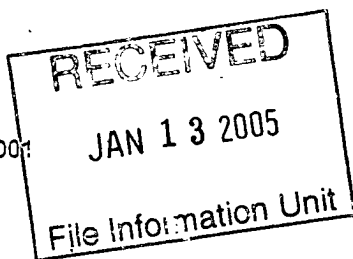


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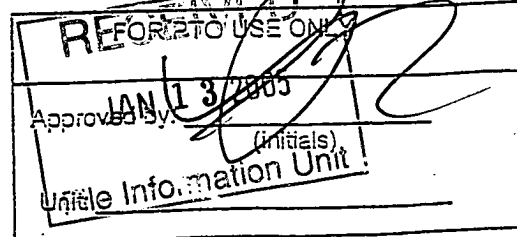
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United States Patent [19]**Cech et al.**[11] **Patent Number:** **6,093,809**[45] **Date of Patent:** **Jul. 25, 2000**[54] **TELOMERASE**[75] **Inventors:** **Thomas R. Cech**, Boulder, Colo.;
Joachim Lingner, Epalinges,
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Menlo Park, Calif.[21] **Appl. No.:** **08/851,843**[22] **Filed:** **May 6, 1997****Related U.S. Application Data**[63] Continuation-in-part of application No. 08/846,017, Apr. 25,
1997, which is a continuation-in-part of application No.
08/844,419, Apr. 18, 1997, which is a continuation-in-part of
application No. 08/724,643, Oct. 1, 1996.[51] **Int. Cl.⁷** **C07H 21/04; A61K 38/00;**
C07K 5/00; C07K 7/00[52] **U.S. Cl.** **536/23.5; 536/23.2; 530/324**[58] **Field of Search** **536/23.1, 23.2,**
536/23.5; 530/324[56] **References Cited****U.S. PATENT DOCUMENTS**

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[57]

ABSTRACT

The present invention is directed to novel telomerase nucleic acids and amino acids. In particular, the present invention is directed to nucleic acid and amino acid sequences encoding various telomerase protein subunits and motifs, including the 123 kDa and 43 kDa telomerase protein subunits of *Euplotes aediculatus*, and related sequences from *Schizosaccharomyces*, *Saccharomyces* sequences, and human telomerase. The present invention is also directed to polypeptides comprising these telomerase protein subunits, as well as functional polypeptides and ribonucleoproteins that contain these subunits.

1 Claim, 71 Drawing Sheets